

# Serology

## Blood Borne Pathogen Exposure/Source Patient (HBsAg, HIV, HCV) by EIA

Specimen Requirements: 2 mL serum

Turn Around Time: Routinely batch tested once per week. Positive results are telephoned to the submitter. These tests may be ordered as a panel, but are billed individually.

CPT Codes: 87340 (HBsAg)  
Price: \$21.53

86703 (HIV)  
Price: \$21.00

86803 (HCV)  
Price: \$36.25

Total Price: \$78.78

Transport Temperature: Ambient

## Blood Borne Pathogen Exposure - Exposed Worker (HBsAb, HIV, HCV) by EIA

Specimen Requirements: 2 mL serum

Turn Around Time: Routinely batch tested once per week. Positive results are telephoned to the submitter. These tests may be ordered as a panel, but are billed individually.

CPT Code: 86706 (HBsAb)  
Price: \$24.25

86703 (HIV)  
Price: \$21.00

86803 (HCV)  
Price: \$36.25

Total Price: \$81.50

Transport Temperature: Ambient

## Blood Lead by Anodic Stripping Voltmetry

Specimen Requirements: 1 mL venous or 0.3 mL capillary whole blood, EDTA (purple top). Adult and child specimen collection kits are available through the laboratory. The laboratory is certified to test for both child and adult lead levels. See instructions on the collection and transport of capillary and venous specimens.

Turn Around Time: Routinely batch tested at least twice per week. Elevated results are telephoned to the submitter.

CPT Code: 83655  
Price: \$20.50

Transport Temperature: Ambient

## Brucella Serology by Bacterial Agglutination

Specimen Requirements: 2 mL Serum

Paired acute and convalescent serum recommended.

Turn Around Time: Routinely batch tested once per week. Positive results are telephoned to the submitter.

**NOTE: Tularemia serology will be automatically performed on all requests for Brucella serology due to antigen cross reactivity.**

CPT Codes: 86622 (Brucella) Price: \$18.00  
86668 (Tularemia) Price: \$18.00  
**Total Price: \$36.00**

Transport Temperature: Ambient

## Colorado Tick Fever Virus (CTFV) Serology, IgG by Indirect Immunofluorescence

Specimen Requirements: 1 mL serum

Paired acute and convalescent serum recommended.

Turn Around Time: Routinely batch tested once per week. Positive results are telephoned to the submitter.

NOTE: Rocky Mountain Spotted Fever testing will automatically be performed on all requests for Colorado Tick Fever.

CPT Code: 86790 (CTFV)  
Price: \$21.00

86757 (RMSF)  
Price: \$21.00

Total Price: \$42.00

Transport Temperature: Ambient

### **Coxiella brunetii Serology (see Q fever Serology)**

#### **Cytomegalovirus (CMV) IgG Serology by EIA**

Specimen Requirements: 1 mL serum  
Screen or paired acute and convalescent specimens

Turn Around Time: Routinely batch tested once per week. Significant results are telephoned to the submitter.

CPT Code: 86644  
Price: \$21.00

Transport Temperature: Ambient

#### **Cytomegalovirus (CMV) IgM Serology by Capture EIA**

Specimen Requirements: 1 mL serum  
Screen or paired acute and convalescent specimens

Turn Around Time: Testing performed each working day. IgM results are telephoned to the submitter.

CPT Code: 86645  
Price: \$37.25

Transport Temperature: Ambient

#### **Exanthem Serology Panel, IgG only (Rubeola, Rubella, HSV, VZV, CTF V and RMSF (during tick season) by EIA, IFA**

Specimen Requirements: 2 mL serum  
Paired acute and convalescent serum recommended. Date on onset of rash must be included on requisition form.

Turn Around Time: Routinely batch tested once per week. Significant results are telephoned to the submitter. These tests may be ordered as a panel, but will be billed individually.

NOTE: Tick season is normally March through September.

CPT Codes: 86765 (Rubeola)  
Price: \$21.00

86695 (HSV1)  
Price: \$21.00

86787 (VZV)  
Price: \$21.00

86762 (Rubella)  
Price: \$21.00

86696 (HSV2)  
Price: \$21.00

86790 (CTFV)  
Price: \$21.00

Total Price: \$147.00

86757 (RMSF)  
Price: \$21.00

Transport Temperature: Ambient

#### **Exanthem Panel, IgG + IgM (Rubeola IgG + IgM, Rubella IgG + IgM, HSV, VZV, CTFV and RMSF (during tick season) by EIA, IFA**

Specimen Requirements: 2 mL serum  
Paired acute and convalescent serum recommended. Date on onset of rash must be included on requisition form.

Turn Around Time: Routinely batch tested once per week. IgM testing performed each working day, as needed. Significant results are telephoned to the submitter. These tests may be ordered as a panel, but will be billed individually.

NOTE: Tick season is normally March through September.

CPT Codes: 86765 (Rubeola IgG)  
Price: \$21.00

86762 (Rubella IgM)  
Price: \$21.00

86787 (VZV)  
Price: \$21.00

86765 (Rubeola IgM)  
Price: \$21.00

86695 (HSV1)  
Price: \$21.00

86790 (CTFV)  
Price: \$21.00

86762 (Rubella IgG)  
Price: \$21.00

86696 (HSV2)  
Price: \$21.00

86757 (RMSF)  
Price: \$21.00

Total Price: \$189.00

Transport Temperature: Ambient

### **Fluorescent Treponemal Antibody (FTA-ABS) by Indirect Immunofluorescence**

Specimen Requirements: 2 mL serum

Turn Around Time: Routinely batch tested once per week. Positive results are telephoned to the submitter.

CPT Code: 86780  
Price: \$33.75

Transport Temperature: Ambient

### ***Francisella tularensis* Serology by Bacterial Agglutination**

Specimen Requirements: 2 mL serum

Paired acute and convalescent specimens recommended.

Turn Around Time: Routinely batch tested once per week. Positive results are telephoned to the submitter.

NOTE: *Brucella* serology testing will be automatically performed on all requests for Tularemia serology due to antigen cross reactivity.

CPT Code: 86668 (Tularemia)  
Price: \$19.00

86622 (*Brucella*)  
Price: \$19.00

Total Price: \$36.00

Transport Temperature: Ambient

### **FTA-ABS (see Fluorescent Treponemal Antibody)**

### **Hantavirus (Sin Nombre Virus) IgG + IgM Serology by EIA, capture EIA**

Specimen Requirements: 1 mL serum

Turn Around Time: Routinely batch tested once per week. Testing is available each working day, or on weekends and holidays as needed. Call ahead to notify the laboratory and to make arrangements. Positive and STAT results are telephoned to the submitter.

To qualify for STAT testing, all of the following criteria must be met:

1. The patient is hospitalized with an acute respiratory illness, typical of Hantavirus pulmonary syndrome (HPS).
2. The patient is critically ill.
3. The patient does not have any relevant underlying medical condition that could account for the symptoms (COPD, malignancy, immunosuppression, diabetes)
4. The onset of illness (date when prodromal symptoms such as low grade fever and myalgia were noted) is 3 or more days prior to serum sample collection. IgM antibody to SNV is usually not detectable until the patient develops shortness of breath.

CPT Code: 86790 (IgG)  
Price: \$46.75

86790 (IgM)  
Price: \$ 46.75

Total Price: \$93.50

Transport Temperature: Ambient

## **HCV (See Hepatitis C Screen)**

### **Hepatitis, Acute Panel by EIA (HAV IgM Ab, HBsAg, HBc IgM Ab, HCV)**

Specimen Requirements: 2 mL serum

Turn Around Time: Testing is routinely batch tested once per week, but may be available each working day as needed. Call ahead to notify the laboratory and to make arrangements if immediate testing is needed. Positive and STAT results are telephoned to the submitter.

CPT Code: 80074

Price: \$120.78

86803 (Hep C)

Price: \$36.25

86705 (HBcoreM)

Price: \$31.50

86709 (HAVM)

Price: \$31.50

87340 (HBsAg)

Price: \$21.53

Transport Temperature: Ambient

### **Hepatitis A IgM Antibody (HAV IgM) by EIA**

Specimen Requirements: 1 mL serum

Turn Around Time: Testing is routinely batch tested once per week, but may be available each working day as needed. Call ahead to notify the laboratory and to make arrangements if immediate testing is needed. Positive and STAT results are telephoned to the submitter.

CPT Code: 86709

Price: \$31.50

Transport Temperature: Ambient

### **Hepatitis B Core IgM (HBc IgM) Antibody by EIA**

Specimen Requirements: 1 mL serum

Turn Around Time: Testing is routinely batch tested once per week, but may be available each working day as needed. Call ahead to notify the laboratory and to make arrangements if immediate testing is needed. Positive and STAT results are telephoned to the submitter.

CPT Code: 86705

Price: \$31.50

Transport Temperature: Ambient

### **Hepatitis B Core Total Antibody (HBc Total) by EIA**

Specimen Requirements: 1 mL serum

Turn Around Time: Testing is routinely batch tested once per week. Positive results are telephoned to the submitter.

NOTE: If this test is the only Hepatitis B serologic marker ordered, positive results will automatically be reflexed to a HBsAg and HBsAb test.

CPT Code: 86704

Price: \$36.25

Transport Temperature: Ambient

### **Hepatitis B Surface Antibody (HBsAb) by EIA (Quantitation)**

Specimen Requirements: 1 mL serum

Turn Around Time: Testing is routinely batch tested once per week.

CPT Code: 86706

Price: \$24.25

Transport Temperature: Ambient

### **Hepatitis B Surface Antigen (HBsAg) by EIA with reflex confirmation**

Specimen Requirements: 2 mL serum

Turn Around Time: Routinely batch tested once per week. Call ahead to notify the laboratory and to make arrangements if immediate testing is needed. Positive and STAT results are telephoned to the submitter.

NOTE: Confirmatory Neutralization testing will be automatically performed on all repeat reactive screens.

CPT Code: 87340 (HBsAg)

Price: \$21.53

CPT Code: 86382 (Neutralization)

Price: \$25.00

Transport Temperature: Ambient

### **Hepatitis C (HCV) Antibody Screen by EIA with reflex confirmation**

Specimen Requirements: 2 mL serum

Turn Around Time: EIA screens routinely batch tested twice per week. Positive results are telephoned to the submitter.

NOTE: Reflex confirmatory testing (RIBA) is performed on all repeat reactive EIA screens with Signal/CutOff (S/CO) ratio <3.8. Confirmatory testing is not necessary on specimens with S/CO ratios of 3.8 or greater as the confirmation rate on these specimens is >95%.

CPT Code (screen): 86803

Price: \$36.25

For RIBA confirmation see specific listing below

Transport Temperature: Ambient

### **Hepatitis C (HCV) Antibody Confirmation, by RIBA**

This reflex test is used to confirm the presence of HCV antibody when Signal/CutOff (S/CO) ratios are <3.8.

Specimen Requirements: 1 mL serum

Referred to Commercial Reference Lab

Turn Around Time: 2 weeks

CPT Code: 86804

Price: \$84.00

Transport Temperature: Ambient

### **Herpes Simplex Virus (HSV), Type 1 and 2, IgG Serology by type specific EIA**

Specimen Requirements: 1 mL serum

Screen or paired acute and convalescent specimens

Turn Around Time: Routinely batch tested once per week. Significant results are telephoned to the submitter.

CPT Code: 86695 (HSV 1)

Price: \$21.00

86696 (HSV 2)

Price: \$21.00

Total Price: \$42.00

Transport Temperature: Ambient

### **Herpes Zoster Virus IgG Serology by EIA (See Varicella Zoster Virus Serology)**

### **HIV – 1 / 2 Plus O Antibody by EIA with reflex confirmation**

Specimen Requirements: 1 mL serum

Turn Around Time: EIA screens routinely tested several days each week; Western Blots performed as needed. Positive results are telephoned to the submitter.

NOTE: Reflex confirmatory Western Blot testing is performed on all repeat reactive EIA screens. Multispot testing will be performed to differentiate HIV-1 and HIV-2 when the HIV-1/2 Plus O Antibody EIA is repeat reactive and the HIV-1 Western Blot is negative or indeterminate.

CPT Code: 86703 (HIV Screen)

Price: \$21.00

86689 (Western Blot)

Price: \$121.25

86703-92 (Multispot)

Price: \$47.25

Transport Temperature: Ambient

### **HIV-1/HIV-2 Multispot Rapid Test**

Specimen Requirements: 1 mL serum

Turn Around Time: Test performed as needed

NOTE: This test is used to differentiate HIV-1 and HIV-2 and is used in an algorithm when the HIV-1/2 Plus O Antibody EIA is repeat-reactive and the HIV-1 Western Blot is negative or indeterminate.

CPT Code: 86703-92

Price: \$47.25

Transport Temperature: Ambient

### **Lead Testing (see Blood Lead)**

### ***Legionella pneumophila* Groups 1-4 IgG Serology by Indirect Immunofluorescence**

Specimen Requirements: 1 mL serum

Paired acute and convalescent serum recommended (drawn approx. 4 to 6 weeks apart).

Turn Around Time: Routinely batched tested once per week. Positive results are telephoned to the submitter.

CPT Code: 86713

Price: \$21.00

Transport Temperature: Ambient

### **Measles Serology (see Rubella Serology)**

### **Mumps IgG Serology by EIA**

Specimen Requirements: 1 mL serum

Screen or paired acute and convalescent specimens

Turn Around Time: Routinely batch tested once per week. Positive results are telephoned to the submitter.

CPT Code: 86735

Price: \$21.00

Transport Temperature: Ambient

### **Mumps IgM Serology by IFA**

Specimen Requirements: 1 mL serum

Collect specimen two (2) days after onset of illness and include date of onset.

Turn Around Time: Performed each working day, as needed. IgM results are telephoned to the submitter.

CPT Code: 86735

Price: \$21.00

Transport Temperature: Ambient

### **Premarital Testing (see Rubella IgG Serology)**

#### **Q Fever (*Coxiella burnetii*) Phase 1 and 2 IgG Serology by Indirect Immunofluorescence**

Specimen Requirements: 1 mL serum

Paired acute and convalescent serum specimens are recommended.

Turn Around Time: Routinely batch tested once per week. Positive results are telephoned to the submitter.

CPT Code: 86638

Price: \$21.00

Transport Temperature: Ambient

#### **QuantiFERON – Gold (QFT – Gold) In-Tube Testing**

This assay is an in vitro test for the determination of latent Tuberculosis infection and can be used as an alternative to the TB skin test (PPD).

Specimen Requirements: Stimulated plasma, obtained from vacutainer tubes specifically coated with antigens. Requires access to a 37°C incubator. Contact the laboratory for further information and specimen collection instructions and supplies. Also reference collection instructions.

Special pricing may be available when performing batch testing for one facility. Batch testing is defined as 20 or more specimens submitted from the same facility at the same time. Please call the laboratory for additional information or pricing.

CPT Code: 86480

Price: \$91.00

Transport Temperature: Ambient

### **Rickettsial Serology (see Rocky Mountain Spotted Fever, Typhus Fever Serology)**

#### **Rocky Mountain Spotted Fever (RMSF) IgG Serology by Indirect Immunofluorescence**

Specimen Requirements: 1 mL serum

Paired acute and convalescent serum recommended.

Turn Around Time: Routinely batch tested once per week. Positive results are telephoned to the submitter.

NOTE: Colorado Tick Fever testing will be automatically performed on all requests for Rocky Mountain Spotted Fever.

CPT Codes: 86757 (RMSF)

86790 (CTFV)

Price: \$21.00

Price: \$21.00

Total Price: \$42.00

Transport Temperature: Ambient

#### **Rubella IgG Serology by EIA**

Specimen Requirements: 1 mL serum

Screen or paired acute and convalescent specimens

For premarital testing for Rubella immunity, download instructions and electronic forms at  
[www.dphhs.mt.gov/PHSD/Lab/Environmental/pdf/premaritalcertfillable.pdf](http://www.dphhs.mt.gov/PHSD/Lab/Environmental/pdf/premaritalcertfillable.pdf)

Turn Around Time: Routinely batch tested once per week. Significant results are telephoned to the submitter.

CPT Code: 86762

Price: \$21.00

Transport Temperature: Ambient

### **Rubella IgM Serology by Indirect Immunofluorescence**

Specimen Requirements: 1 mL serum.

Collect specimen at least two (2) days after onset of rash, and include date of onset.

Turn Around Time: Performed each working day, as needed. Results are telephoned to the submitter.

CPT Code: 86762

Price: \$21.00

Transport Temperature: Ambient

### **Rubeola (Measles) IgG Serology by EIA**

Specimen Requirements: 1 mL serum

Screen or paired acute and convalescent specimens.

Turn Around Time: Routinely batch tested once per week. Significant results are telephoned to the submitter.

CPT Code: 86765

Price: \$21.00

Transport Temperature: Ambient

### **Rubeola (Measles) IgM Serology by Indirect Immunofluorescence**

Specimen Requirements: 1 mL serum

Collect specimen at least two (2) days after onset of rash, and include date of onset.

Turn Around Time: Performed each working day, as needed. Results are telephoned to the submitter.

CPT Code: 86765

Price: \$21.00

Transport Temperature: Ambient

### **Sin Nombre Virus (see Hantavirus Serology)**

### **Syphilis Serology Screen (Qualitative) by VDRL**

Specimen Requirements: 2 mL serum or 1 mL CSF

Turn Around Time: Routinely batch tested twice per week. Positive results are reflexed to quantitative VDRL.

CPT Code: 86592

Price: \$13.75

Transport Temperature: Ambient

### **Syphilis Serology Screen (Quantitative) by VDRL**

Specimen Requirements: 2 mL serum or 1 mL CSF

Turn Around Time: Routinely batch tested twice per week. Significant results are telephoned to the submitter.

NOTE: Reflex confirmatory FTA-ABS testing is performed on all serum VDRL specimens with results of Reactive 2 dilutions or greater. Initial results of Weakly Reactive or Reactive 1 dil. should have a second specimen submitted.

CPT Code: 86593

Price \$14.00

Transport Temperature: Ambient



### **Tick-borne Disease IgG Serology Panel (RMSF, CTFV, Q Fever, Tularemia and Brucella) by IFA, Bacterial Agglutination**

Specimen Requirements: 3 mL serum

Paired acute and convalescent serum recommended.

Turn Around Time: Routinely batch tested once per week. Positive results are telephoned to the submitter. These tests may be ordered as a panel, but will be billed individually.

Note: Although not a tick-borne disease, Brucella testing is performed on all requests for Tularemia due to antigen cross reactivity.

CPT Codes: 86757 (RMSF)

Price: \$21.00

86638 (Q-Fever)

Price: \$21.00

86622 (Brucella)

Price: \$19.00

86790 (CTFV)

Price: \$21.00

86668 (Tularemia)

Price: \$19.00

Total Price: \$101.00

Transport Temperature: Ambient

### **Torch Screen, IgG Only by EIA (Toxoplasma, CMV, Rubella, HSV Type 1 and 2)**

Specimen Requirements: 2 mL serum

Paired acute and convalescent serum recommended. For newborns, include mother's serum for baseline paired specimen.

Turn Around Time: Routinely batch tested once per week. Significant results are telephoned to the submitter. These tests may be ordered as a panel, but will be billed individually.

CPT Codes: 86777 (Toxo IgG)

Price: \$21.00

86762 (Rubella IgG)

Price: \$21.00

86696 (Herpes Simplex 2)

Price: \$21.00

86644 (CMV IgG)

Price: \$21.00

86695 (Herpes Simplex 1)

Price: \$21.00

Total Price: \$105.00

Transport Temperature: Ambient

### **Torch Screen, IgG + IgM by EIA (Toxoplasmosis G+M, CMV G+M, Rubella G+M, HSV IgG)**

Specimen Requirements: 2 mL serum; include date of onset.

Turn Around Time: Routinely batch tested once per week. IgM testing performed each working day, as needed. Positive IgM results are telephoned to the submitter. These tests may be ordered as a panel, but will be billed individually.

CPT Codes: 86777 (Toxo G)

Price: \$21.00

86695 (HSV 1)

Price: \$21.00

86645 (CMV M)

Price: \$37.25

86644 (CMV G)

Price: \$21.00

86696 (HSV 2)

Price: \$21.00

86762 (Rubella M)

Price: \$21.00

86762 (Rubella G)

Price: \$21.00

86778 (Toxo M)

Price: \$37.25

Total Price: \$200.50

Transport Temperature: Ambient

### **Toxoplasmosis IgG Serology by EIA**

Specimen Requirements: 1 mL serum

Screen or paired acute and convalescent specimens

Turn Around Time: Routinely batch tested once per week. Positive results are telephoned to the submitter.

CPT Code: 86777

Price: \$21.00

Transport Temperature: Ambient

## **Toxoplasmosis IgM Serology by Indirect Immunofluorescence**

Specimen Requirements: 1 mL serum

Turn Around Time: Testing performed each working day, as needed. Results are telephoned to the submitter.

CPT Code: 86778

Price: \$37.25

Transport Temperature: Ambient

## **Treponema pallidum (See Syphilis Serology or Fluorescent Treponemal Antibody)**

## **Tularemia Serology (See Francisella tularensis serology)**

## **Varicella Zoster Virus (VZV) (Herpes Zoster Virus) IgG Serology by EIA**

Specimen Requirements: 1 mL serum

Screen or paired acute and convalescent specimens.

Turn Around Time: Routinely batch tested once per week; available each working day, as needed. Significant and STAT results are telephoned to the submitter.

To qualify for STAT testing, all of the following criteria must be met:

1. The patient is at high risk for complications and has been recently exposed to a known case of chickenpox. High risk patients are defined as immunocompromised persons, pregnant women, premature infants whose mothers are not immune, premature infants < 28 weeks gestation, and premature infants < 1000 grams at birth
2. The patient does not have a history of chicken pox and/or does not know their immune status.
3. Exposure has been recent enough that the 96-hour window for administration of VZIG is achievable if the testing determines the patient to be susceptible to VZV infection.

CPT Code: 86787

Price: \$21.00

Transport Temperature: Ambient

## **VDRL Serology (see Syphilis Serology)**

## **Western Blot (see HIV-1/2 Antibody)**

## **West Nile Virus (WNV) IgM Serology by EIA**

NOTE: Serology is the recommended method of testing for WNV in both serum and cerebral spinal fluid (CSF), because viremia (as detected by PCR) is very transient.

Specimen Requirements: 1 mL serum and/or 1 mL CSF

Date of onset is required, and the city or county of patient's residence is requested.

NOTE: Negative results on specimens drawn less than 9 days from date of onset should have a convalescent serum tested if active disease is suspected.

Turn Around Time: Routinely batch tested once per week; during seasonal outbreaks, testing may be performed each working day, depending on workload. Positive results are telephoned to the submitter. Certain specimens may be referred to the Centers for Disease Control in Fort Collins, Colorado for confirmation using more specific Plaque Reduction Neutralization tests, and equivocal (borderline) results may be reflexed to St. Louis Encephalitis IgM Serology.

CPT Code: 86788

Price: \$19.00

Transport Temperature: Ambient

### **West Nile Virus IgG Serology by EIA**

Specimen Requirements: 1 mL serum. Paired acute and convalescent specimens recommended.

Date of onset is required, and the city or county of patient's residence is requested.

Turn Around Time: Routinely batch tested once per week; during seasonal outbreaks, testing may be performed each working day, depending on workload. Positive results are telephoned to the submitter.

CPT Code: 86789

Price: \$19.00

Transport Temperature: Ambient

# Serology, Referred to Outside Laboratory

## ***Actinomyces* spp. Serology**

Specimen Requirements: 2 mL serum

Referred to the Centers for Disease Control, Atlanta, Georgia  
Turn Around Time: 3 to 6 weeks

CPT Code: 86602  
Price: \$25.00

Transport Temperature: Ambient

## **Amebiasis Serology (see *Entameba histolytica* serology)**

## **Arbovirus Serology, Additional Tests (WEE and California Group) by cELISA, ELISA**

Specimen Requirements: 2 mL serum or CSF

Paired acute and convalescent serum recommended. Date of onset must be included on requisition form.

Referred to the Centers for Disease Control, Fort Collins, CO  
Turn Around Time: 4 to 6 weeks

CPT Codes: 86654 (Western Equine Encephalitis)  
Price: \$12.50

86651 (California Group)  
Price: \$12.50

Total Price: \$25.00

Transport Temperature: Ambient

## **Babesia Serology by IFA**

Specimen Requirements: 2 mL serum

Referred to the Centers for Disease Control, Atlanta, Georgia  
Turn Around Time: 3 to 6 weeks

CPT Code: 86256  
Price: \$25.00

Transport Temperature: Ambient

## ***Bartonella* spp. (formerly *Rochalimaea* spp.) Serology by IFA**

Specimen Requirements: 2 mL serum, plus completed cat scratch fever disease history form. The laboratory will fax you a form upon request.

Referred to the Centers for Disease Control, Atlanta, Georgia  
Turn Around Time: 4 to 6 weeks

CPT Code: 86256  
Price: \$25.00

Transport Temperature: Ambient

## **Blastomyces spp. Serology (see Fungal Serology)**

### ***Borrelia burgdorferi* Serology by EIA with reflex Western Blot confirmation**

Specimen Requirements: 2 mL serum and a completed Lyme Disease report form. Date of onset information must be included.

Referred to the Centers for Disease Control, Fort Collins, Colorado  
Turn Around Time: 2 to 3 weeks

CPT Code: 86618 (Screen)  
Price: \$25.00

Transport Temperature: Ambient

### ***Borrelia hermsii* Serology (Tick Borne Relapsing Fever) by EIA**

Specimen Requirements: 2 mL serum  
Paired acute and convalescent serum recommended. Date of onset information must be included on requisition form.

Referred to the Centers for Disease Control, Fort Collins, Colorado  
Turn Around Time: 4 to 6 weeks

CPT Code: 86619  
Price: \$25.00

Transport Temperature: Ambient

### **Cat Scratch Fever (see *Bartonella* spp.)**

### **Coccidioidomycosis Serology (see Fungal Serology)**

### **Cysticercosis (*Taenia* spp.) Serology by Immunoblot**

Specimen Requirements: 2 mL serum

Referred to the Centers for Disease Control, Atlanta, Georgia  
Turn Around Time: 3 to 6 weeks

CPT Code: 84182  
Price: \$25.00

Transport Temperature: Ambient

### **Dengue Fever Serology by ELISA**

Specimen Requirements: 2 mL serum

Referred to the Centers for Disease Control, San Juan, Puerto Rico  
Turn Around Time: 4 to 6 weeks

CPT Code: 86790  
Price: \$25.00

Transport Temperature: Ambient

### **Echinococcosis Serology by EIA**

Specimen Requirements: 2 mL serum

Referred to the Centers for Disease Control, Atlanta, Georgia  
Turn Around Time: 2 to 4 weeks

CPT Code: 84182  
Price: \$25.00

Transport Temperature: Ambient

### ***Ehrlichia* spp. Serology by Indirect Immunofluorescence**

Specimen Requirements: 2 mL serum

Referred to the Centers for Disease Control, Atlanta, Georgia

Turn Around Time: 4 to 6 weeks

CPT Code: 86682

Price: \$25.00

Transport Temperature: Ambient

### ***Entameba histolytica* Serology by EIA**

Specimen Requirements: 2 mL serum Include documentation of negative stool examinations for *E. histolytica*.

Referred to the Centers for Disease Control, Atlanta, Georgia

Turn Around Time: 3 to 6 weeks

CPT Code: 86753

Price: \$25.00

Transport Temperature: Ambient

### **Fungal Serology (Histo, Cocci, Blasto) by CF & Agar Gel**

Specimen Requirements: 2 mL serum

Referred to the Centers for Disease Control, Atlanta, Georgia

Turn Around Time: 3 to 6 weeks

CPT Code: 86698 (Histoplasma)

86612 (Blastomyces)

86635 (Coccidioides)

Price: \$25.00

Transport Temperature: Ambient

### **Histoplasma Serology (see Fungal Serology)**

### **HIV - 1 Antigen by EIA**

Specimen Requirements: 2 mL serum

Referred to the Centers for Disease Control, Atlanta, Georgia

Turn Around Time: 4 to 6 weeks

CPT Code: 87390

Price: \$25.00

Transport Temperature: Ambient

### ***Leishmania* Serology by IFA**

Specimen Requirements: 2 mL serum

Referred to the Centers for Disease Control, Atlanta, Georgia

Turn Around Time: 3 to 6 weeks

CPT Code: 86717

Price: \$25.00

Transport Temperature: Ambient

### **Leptospira Serology by INDX Dip-S-Ticks or IgM EIA**

Specimen Requirements: 2 mL serum

Paired acute and convalescent serum specimens are recommended.

Referred to the Centers for Disease Control, Atlanta, Georgia

Turn Around Time: 3 to 6 weeks

CPT Code: 86720

Price: \$25.00

Transport Temperature: Ambient

### **Lyme Disease Serology (see *Borrelia burgdorferi* serology)**

### **Malaria Serology (see *Plasmodium* Serology)**

### ***Nocardia* spp. Serology**

Specimen Requirements: 2 mL serum

Referred to the Centers for Disease Control, Atlanta, Georgia

Turn Around Time: 3 to 6 weeks.

CPT Code: 86744

Price: \$25.00

Transport Temperature: Ambient

### ***Paragonimus* Serology**

Specimen Requirements: 2 mL serum

Referred to the Centers for Disease Control, Atlanta, Georgia

Turn Around Time: 3 to 6 weeks

CPT Code: 86317

Price: \$25.00

Transport Temperature: Ambient

### ***Parvovirus* Serology IgG & IgM by EIA**

Specimen requirements: 2 mL serum

Referred to the Oregon State Public Health Laboratory, Salem, OR

Turn Around Time: 2 to 4 weeks

CPT Code: 86747

Price: \$25.00

Transport Temperature: Ambient

### ***Plasmodium* Serology by IFA**

Specimen Requirements: 2 mL serum

Referred to the Centers for Disease Control, Atlanta, Georgia

Turn Around Time: 2 to 4 weeks

NOTE: Serology is performed only on patients whose blood slides are repeatedly negative, and have compatible travel history.

CPT Code: 86750

Price: \$25.00

Transport Temperature: Ambient

PHL Lab Manual 2010 ver1.4 Effective October 6, 2010

### **Rabies Detection for Diagnostic Purposes (Animal Testing)**

Animal Testing - Not performed by our laboratory.

Refer specimens to the Veterinary Diagnostic Laboratory in Bozeman, (406) 994-4885

### **Rabies Detection for Diagnostic Purposes (Human Testing)**

Human Testing for Diagnostic Purposes - Consult the laboratory for specific sampling requirements and proper handling and transport. Consult with the Epidemiology Section (406) 444-0274

Human Diagnostic Testing is referred to the Centers for Disease Control, Atlanta, Georgia.

Turn Around Time: Preliminary results (PCR) are available as soon as possible, usually the same day as receipt.

CPT Code: None

Price: Fee Waived

Transport Temperature: Call for instructions

### **Rabies Serology for Immune Status Antibody Testing by RFFIT**

Testing not available through this laboratory

Testing available from:

Atlanta Health Associates, Alpharetta, Georgia (770) 667-8023

<http://www.atlantahealth.net>

Kansas State University, Manhattan, KS (785) 532-4483

<http://www.vet.ksu.edu/depts/dmp/service/rabies/index.htm>

### **Rochalimea spp. Serology (see Bartonella Serology)**

### **Schistosoma Serology by FAST-ELISA**

Specimen Requirements: 2 mL serum

Referred to the Centers for Disease Control, Atlanta, Georgia

Turn Around Time: 3 to 6 weeks

CPT Code: 86682

Price: \$25.00

Transport Temperature: Ambient

### **Sporothrix Serology by Latex and/or Tube Agglutination**

Specimen Requirements: 2 mL serum

Referred to the Centers for Disease Control, Atlanta, Georgia

Turn Around Time: 3 to 6 weeks

CPT Code: 86317

Price: \$25.00

Transport Temperature: Ambient



### **St Louis Encephalitis IgM Serology by EIA**

This test may be ordered individually. Due to the cross-reactivity of West Nile Virus (WNV) and St Louis Encephalitis Virus (SLE), SLE serology may be performed on specimens with a borderline WNV test result.

Specimen Requirements: 2 mL serum and/or 1 mL CSF

Date of onset is required, and the city or county of patient's residence is requested.

Referred to the Centers for Disease Control in Fort Collins, Colorado

Turn Around Time: 4 to 6 weeks

CPT Code: 86653

Price: \$25.00

Transport Temperature: Ambient

### ***Strongyloides* Serology by EIA**

Specimen Requirements: 2 mL serum

Referred to the Centers for Disease Control, Atlanta, Georgia

Turn Around Time: 3 to 6 weeks

CPT Code: 86317

Price: \$25.00

Transport Temperature: Ambient

### **Tick-borne Relapsing Fever (see *Borrelia hermsii* Serology)**

### ***Toxocara* Serology by EIA**

Specimen Requirements: 2 mL serum

Referred to the Centers for Disease Control, Atlanta, Georgia

Turn Around Time: 3 to 6 weeks

CPT Code: 86317

Price: \$25.00

Transport Temperature: Ambient

### ***Trichinella* Serology**

Specimen Requirements: 2 mL serum

Referred to the Centers for Disease Control, Atlanta, Georgia

Turn Around Time: 3 to 6 weeks

CPT Code: 86784

Price: \$25.00

Transport Temperature: Ambient

### **Trypanosomiasis Serology (including *Trypanosoma cruzi* / Chagas Disease)**

Specimen Requirements: 2 mL serum

Referred to the Centers for Disease Control, Atlanta, Georgia

Turn Around Time: 3 to 6 weeks

CPT Code: 86682

Price: \$25.00

Transport Temperature: Ambient

### **Typhus Fever IgG Serology by Indirect Immunofluorescence**

Specimen Requirements: 2 mL serum

Paired acute and convalescent serum specimens are recommended.

Referred to the Centers for Disease Control, Atlanta, Georgia

Turn Around Time: 3 to 6 weeks

CPT Code: 86256

Price: \$25.00

Transport Temperature: Ambient

### ***Yersinia pestis* Serology by Passive Hemagglutination**

Specimen Requirements: 2 mL serum

Referred to the Centers for Disease Control, Fort Collins, Colorado

Turn Around Time: 4 to 6 weeks

CPT Code: 86793

Price: \$25.00

Transport Temperature: Ambient

## Serology Specimens Collection and Transport

**TESTING POLICY:** If DATE OF ONSET is not present on laboratory request form, a convalescent specimen will be requested. True "ACUTE Phase" specimens will not be tested until the convalescent specimen is received. If more than four weeks pass without receipt of a convalescent specimen, the acute only specimen will be run and reported with a disclaimer that based on date of onset, specimen may have been collected prior to the production of significant antibodies. When acute and convalescent specimens are tested at the same time, only the convalescent specimen will be billed.

Acute Specimen	The DATE OF ONSET of symptoms or disease is less than 7 days from the date serum is obtained, usually the first few days of the illness. IgG antibody titers are not elevated. Exceptions: Rubeola, Rubella, and Colorado Tick Fever and Rocky Mountain Spotted Fever may have a significant IgG titer in 7-10 days.
Convalescent Specimen	The DATE OF ONSET of symptoms or disease is 2 weeks or greater from the date serum is obtained. IgG antibody levels should be at a significant level. Exception: Legionella sp. antibody levels may not be significant for 4-6 weeks.
Screen Only Single Specimen Only	<p>The patient has a chronic condition, with the DATE OF ONSET of symptoms or disease being a very long period of time (months to years, OR patient is being screened for antibodies to a certain infectious agent (HIV, Hepatitis B, Rubella, VZV, Toxoplasma, etc.) OR IgM testing is available.</p> <p>Single specimen test results may be difficult to interpret and an additional specimen may be requested if results warrant.</p>

Submit approximately 2 - 4 mL of clear non-hemolyzed serum for testing. Contact the laboratory for exact volumes needed if serum is difficult to obtain. Serum separator tubes can be used. Spin the SST tubes well to completely separate the serum and cells and submit the whole tube. Serum does not have to be poured off. DO NOT submit unspun SST tubes. If serum is not submitted in the original SST tube, place in a leakproof container.

Cerebral Spinal Fluid (CSF) may also be submitted for serological testing in certain instances. A serum sample should also be submitted with the CSF for comparison testing.

Specimens should be clearly labeled with patient name or other identifier, and the collection date. Completely fill out the standard laboratory request form.

Place each specimen container in an individual biohazard zip lock bag containing absorbent material and seal bag tightly. Place the completed laboratory request form in the outer sleeve of the biohazard zip lock bag. Do not place the completed laboratory request form inside the zip lock bag.

If specimen is stored prior to shipment, store at 4°C. If storage is longer than 1 week, freeze the specimen. Specimens may be shipped at room temperature. Labeled pre-addressed mailing canisters are available from the laboratory. Transport by mail or courier.

## Capillary (Fingerstick Specimens) for Blood Lead Collection and Transport

Collection supplies are available free of charge by contacting the laboratory. Kits include:

2 Sterile Alcohol Preps	1 Capillary collection device	1 Transport zip lock bag
1 Lancet	1 Dry Sterile Gauze Pad	1 Instruction sheet

### Performing the Skin Puncture:

1. Thoroughly wash hands and don powder free gloves.
2. Select the puncture site. Blood can be obtained from:
  - fingertip (for adults and children older than 1 year)
  - the bottom of the big toe (infants only)
  - the heel (infants only)
3. Clean the puncture site with alcohol pad. If the site is extremely soiled or very cold, wash with warm soapy water and towel dry. Use the alcohol swab to briskly scrub the puncture site to remove any environmental contamination and to increase blood flow.
4. Allow the site to air dry or use the sterile gauze to dry the area.
5. Puncture the skin with the lancet.

### Collection of the Sample:

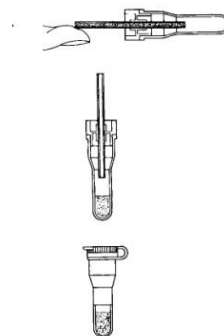
1. Use the gauze to wipe off the first drop of blood, which contains excess tissue fluid. A rounded drop of blood will form over the puncture site. When the tip of the collection device touches this drop, blood will flow by capillary action into the tube. Care should be taken that the tip of the collection device is in contact with the blood only, not skin. Gently apply continuous pressure to the surrounding tissue; avoid milking the site.

**Important:** The flow of blood must be adequate enough to fill the capillary rapidly. Do not stop to shake or tap the tube until the capillary is filled.

**Important:** Capillary must be held continuously in a horizontal position during the drawing of the blood

After filling, turn the capillary device immediately to a vertical position to allow the blood to flow into the tube

Remove capillary with holder at the same time. Close tube with attached cap.



2. Apply pressure to the puncture site with a gauze pad to stop bleeding, while mixing the specimen by inverting a minimum of five times.
3. Identify each skin puncture specimen with the patient's name and collection date.

### Submitting Specimens to the Laboratory for Testing:

1. Complete a standard laboratory request form to include the patient's name, date of birth, gender, collection date, submitter information, and, if applicable, Medicaid billing information.
2. Place the well mixed blood specimen container into the individual biohazard zip lock transport bag and seal bag tightly. Fold the requisition form and place in sleeve of the bag. Place the zip lock bag(s) into a preaddressed white mailing canister. Store the specimen(s) in the refrigerator until shipped. Specimens are stable for 7 days at refrigeration temperatures.
3. Specimens are transported at ambient temperature by mail or courier.

### Results:

1. Laboratory test results will be mailed to the submitter upon completion of testing.
2. Should the initial test be elevated, a venous specimen will be requested for verification.

## Venipuncture Specimens for Blood Lead Collection and Transport

Collection supplies are available free of charge by contacting the laboratory.

### The Venipuncture Collection Kit includes:

1 Sterile Alcohol Preps	1 Needle and Holder or 1 Needle and syringe	1 Transport zip lock bag
1 Dry Sterile Gauze Pad	1 Vacutainer EDTA tube	1 Instruction sheet

### Preparation of the Puncture Site:

1. Thoroughly wash hands and don powder free gloves.
2. Expose the selected antecubital fossa and apply tourniquet to mid-biceps. Scrub the puncture site briskly with the alcohol pad to remove any environmental contamination and to increase blood flow.
3. Allow the site to air dry or use the sterile gauze to dry the area.

### Collection of the Sample:

1. Prepare needle assembly, either needle and vacutainer holder, or needle and syringe.
2. Perform venipuncture per standard operating procedures. Make sure the vacutainer tube is completely filled before stopping collection. If using a needle and syringe, obtain a minimum of 2 mL of whole blood.
3. Remove tourniquet first, then needle from arm.
4. Apply pressure to the puncture site with a gauze pad to stop the patient's bleeding. Parent/guardian or child may continue holding direct pressure on the puncture site.
5. If drawn directly into vacutainer tube, immediately mix the specimen manually by inverting a minimum of 10 times.
6. If drawn with a needle into the syringe, immediately inject the blood from the syringe into the vacutainer tube, gently mixing while filling. Continue to mix the specimen by inverting 10 times.
7. Dispose of used needle and syringe equipment into puncture proof Sharps container.
8. Identify each skin puncture specimen with the patient's name, at a minimum, and collection date.

### Submitting Specimens to the Laboratory for Testing:

1. Complete a standard laboratory request form to include the patient's name, date of birth, gender, collection date, submitter information, and, if applicable, Medicaid billing information.
2. Place the well mixed, unclotted blood specimen in an individual biohazard zip lock bag containing absorbent material and seal bag tightly. Fold the requisition form and place in sleeve of the bag. Place the zip lock bag(s) into a preaddressed white mailing canister. Store the specimen(s) in the refrigerator until shipped. Specimens are transported at ambient temperature by mail or courier.
3. Specimens are stable for 7 days at refrigeration temperatures.

### Results:

Laboratory test results will be mailed to the submitter upon completion of testing.

## QuantiFERON®-TB Gold In-Tube Testing Collection and Transport

QuantiFERON®-TB Gold In-Tube (IT) is an *in vitro* diagnostic test using a peptide cocktail containing three different proteins to stimulate cells in heparinized whole blood. Detection of interferon- $\gamma$  (IFN- $\gamma$ ) by Enzyme-Linked Immunosorbent Assay (ELISA) is used to identify *in vitro* responses to these peptide antigens that are associated with *Mycobacterium tuberculosis* infection. QuantiFERON®-TB Gold IT is an indirect test for *M. tuberculosis* infection (including disease) and is intended for use in conjunction with risk assessment, radiography and other medical and diagnostic evaluations.

### Please read and follow the complete directions carefully!

#### Collection and Transport of Whole Blood Specimens

QuantiFERON®-TB Gold IT uses the following collection tubes; the set will be provided for you free of charge by calling 800-821-7284, or e-mailing to [mtphl@mt.gov](mailto:mtphl@mt.gov).

1. Nil Control (Grey cap with white ring).
2. TB Antigen (Red cap with white ring).
3. Mitogen Control (Purple cap with white ring).

Antigens have been dried onto the inner wall of the blood collection tubes so it is essential that the contents of the tubes be thoroughly mixed with the blood. The tubes must be transferred to a  $37^{\circ}\text{C} \pm 1^{\circ}\text{C}$  incubator as soon as possible and within 16 hours of collection.

#### The following procedures should be followed for optimal results:

1. For each subject collect 1 mL of blood by venipuncture directly into each of the QuantiFERON®-TB Gold IT blood collection tubes. **\*\*Note: The 1 mL volume is very important in ensuring accurate results. The use of a syringe is a good way to ensure the volume requirement is met.**
  - As 1 mL tubes draw blood relatively slowly, keep the tube on the needle for 2-3 seconds once the tube appears to have completed filling, to ensure that the correct volume is drawn.  
*The black mark on the side of the tubes indicates the 1mL fill volume. If the level of blood in any tube is not close to the indicator line, it is recommended to obtain another blood sample. Under or over-filling of the tubes may lead to erroneous results.*
  - If a “butterfly needle” is being used to collect blood, a “purge” tube should be used to ensure that the tubing is filled with blood prior to the QuantiFERON®-TB Gold IT tubes being used.
2. Mix the tubes by **SHAKING VIGOROUSLY** for 5 seconds to ensure that **the entire inner surface of the tube** has been coated with the blood.
  - Thorough mixing is required to ensure complete integration of the tube's contents into the blood.
3. Label tubes appropriately.
  - Ensure each tube (Nil, TB Antigen, Mitogen) is identifiable by its label or other means once the cap is removed.
4. The tubes must be **transferred to a  $37^{\circ}\text{C} \pm 1^{\circ}\text{C}$  incubator** as soon as possible, and **within 16 hours of collection**. Prior to incubation, maintain tubes at room temperature ( $22^{\circ}\text{C} \pm 5^{\circ}\text{C}$ ). Do not refrigerate or freeze the blood specimens.
5. If the blood is not incubated immediately after collection, **re-mixing** of the tubes by vigorous shaking **for 5 seconds** must be repeated **immediately prior to incubation**.
6. Incubate the tubes **UPRIGHT** at  $37^{\circ}\text{C} \pm 1^{\circ}\text{C}$  for 16 to 24 hours. The incubator does not require  $\text{CO}_2$  or humidification.
7. Following  $37^{\circ}\text{C} \pm 1^{\circ}\text{C}$  incubation, blood collection tubes may be transported between  $2^{\circ}\text{C}$  and  $27^{\circ}\text{C}$ . **Specimens must be received in the laboratory within 3 days of incubation.**
8. Complete a standard laboratory request form; **include date and TIME of draw**, and **whether or not the specimen(s) have been incubated** prior to shipment. Please note this information in the Comments/Pertinent Information section of the blue form.

An instructional video on the mixing and storage of blood collection tubes is available at <http://www.cellestis.com/>. Click on the link on the left side of the page: QuantiFERON®-TB Gold In-Tube, Technical Information, Technical Resources, Instructional Video.

QUESTIONS? Contact the laboratory at 800-821-7284 or [mtphl@mt.gov](mailto:mtphl@mt.gov)

# Lyme Disease Report Form (can be downloaded from CDC website)

## LYME DISEASE CASE REPORT

Patient's Name: \_\_\_\_\_ First Name: \_\_\_\_\_ Phone No.: ( ) \_\_\_\_\_  
 Address: \_\_\_\_\_ City: \_\_\_\_\_

Detach before sending to CDC



DEPARTMENT OF  
HEALTH & HUMAN SERVICES  
Centers for Disease Control  
and Prevention

## LYME DISEASE CASE REPORT



Approved OMB No. 0920-0004

<b>State:</b> _____		<b>County:</b> _____		<b>Zip:</b> _____
<b>Age:</b> _____	<b>Sex:</b> <input type="checkbox"/> Male <input type="checkbox"/> Female <input type="checkbox"/> Unspecified	<b>Patient Ethnicity: (select one)</b> <input type="checkbox"/> Hispanic/Latino <input type="checkbox"/> Unk <input type="checkbox"/> Not Hispanic/Latino	<b>Patient Race: (select all that apply)</b> <input type="checkbox"/> American Indian or Alaska Native <input type="checkbox"/> Black or African American <input type="checkbox"/> White <input type="checkbox"/> Unk <input type="checkbox"/> Asian <input type="checkbox"/> Native Hawaiian or Pacific Islander <input type="checkbox"/> Other	

### - SYMPTOMS AND SIGNS OF CURRENT EPISODE - (PLEASE MARK EACH QUESTION)

#### DERMATOLOGIC:

Erythema migrans (physician diagnosed EM at least 5 cm in diameter) . . . . . ☐ Yes ☐ No ☐ Unk

#### RHEUMATOLOGIC:

Arthritis characterized by brief attacks of joint swelling . . . . . ☐ Yes ☐ No ☐ Unk

#### NEUROLOGIC:

Bell's palsy or other cranial neuritis . . . . . ☐ Yes ☐ No ☐ Unk

Radiculoneuropathy . . . . . ☐ Yes ☐ No ☐ Unk

Lymphocytic meningitis . . . . . ☐ Yes ☐ No ☐ Unk

Encephalitis/Encephalomyelitis . . . . . ☐ Yes ☐ No ☐ Unk

CSF tested for antibodies to B. burgdorferi . . . . . ☐ Yes ☐ No ☐ Unk

Antibody to B. burgdorferi higher in CSF than serum . . . . . ☐ Yes ☐ No ☐ Unk

#### CARDIOLOGIC:

2nd or 3rd degree atrioventricular block . . . . . ☐ Yes ☐ No ☐ Unk

Other clinical: \_\_\_\_\_

<b>Date of onset of first symptoms:</b> Mo. Day Year [ ][ ] [ ][ ] [ ][ ][ ][ ]	<b>Date of diagnosis:</b> Mo. Day Year [ ][ ] [ ][ ] [ ][ ][ ][ ]	<b>Date of report to health agency</b> Mo. Day Year [ ][ ] [ ][ ] [ ][ ][ ][ ]
---	---	--

### - OTHER HISTORY -

Was the patient hospitalized for the current episode . . . . . ☐ Yes ☐ No ☐ Unk

Name of antibiotic(s) used this episode \_\_\_\_\_ Use in days \_\_\_\_\_

Was the patient pregnant at the time of illness . . . . . ☐ Yes ☐ No ☐ Unk

Where was the patient most likely exposed: County \_\_\_\_\_ State: \_\_\_\_\_

### - LABORATORY RESULTS -

	Positive	Negative	Equivocal	Not done/Unk
Serologic test results: . . . . .	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Culture results: . . . . .	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other (specify) _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

<b>Physician's name:</b> _____ <b>Phone No.</b> ( ) _____	<b>Person completing form:</b> _____ <b>Phone No.</b> ( ) _____
<b>Address:</b> _____	<b>Address:</b> _____

### - FOR INTERNAL USE ONLY -

<b>State ID No.</b> [ ][ ][ ][ ][ ][ ]	<b>CDC ID No.</b> [ ][ ][ ][ ][ ][ ]	<b>Date reported to CDC</b> Mo. Day Year [ ][ ] [ ][ ] [ ][ ][ ][ ]
---	---	---

Public reporting burden of this collection of information is estimated to average 10 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. An agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a currently valid OMB control number. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden to CDC, Project Clearance Officer, 1600 Clifton Road, MS E-71, Atlanta, GA 30333, ATTN: PRA (0920-0004). Do not send the completed form to this address.

## **LYME DISEASE NATIONAL SURVEILLANCE CASE DEFINITION**

Lyme disease is a systemic, tick-borne disease with protean manifestations, including dermatologic, rheumatologic, neurologic, and cardiac abnormalities. The best clinical marker for the disease is the initial skin lesion, erythema migrans (EM), that occurs in 60% to 80% of patients.

**A case of Lyme disease is defined as follows:**

1. A person with erythema migrans; or
2. A person with at least one late manifestation and laboratory confirmation of infection.

NOTE: *It should be emphasized that is an epidemiologic case definition intended for surveillance purposes only.*

### **General clinical epidemiologic definitions:**

**1. Erythema migrans (EM):**

For purposes of surveillance, EM is a skin lesion that typically begins as a red macule or papule and expands over a period of days or weeks to form a large round lesion, often with partial central clearing. A solitary lesion must reach at least 5 cm in size. Secondary lesions may also occur. Annular erythematous lesions occurring within several hours of a tick bite represent hypersensitivity reactions and do not qualify as EM. In most patients, the expanding EM lesion is accompanied by other acute symptoms, particularly fatigue, fever, headache, mild stiff neck, arthralgias, or myalgias. These symptoms are typically intermittent. The diagnosis of EM must be made by a physician. Laboratory confirmation is recommended for persons with no known exposure.

**2. Late manifestations:**

These include any of the following when an alternate explanation is not found.

**a. Musculoskeletal system:**

Recurrent, brief attacks (weeks or months) of objective joint swelling in one or a few joints sometimes followed by chronic arthritis in one or a few joints. Manifestations not considered as criteria for diagnosis include chronic progressive arthritis not preceded by brief attacks and chronic symmetrical polyarthritis. Additionally, arthralgias, myalgias, or fibromyalgia syndromes alone are not accepted as criteria for musculoskeletal involvement.

**b. Nervous system:**

Lymphocytic meningitis, cranial neuritis, particularly facial palsy (may be bilateral), radiculoneuropathy or rarely, encephalomyelitis alone or combination. Encephalomyelitis must be confirmed by showing antibody production against *B. burgdorferi* in the cerebrospinal fluid (CSF), demonstrated by a higher titer of antibody in CSF than in serum. Headache, fatigue, paresthesias, or mild stiff neck alone are not accepted as criteria for neurologic involvement.

**c. Cardiovascular system:**

Acute onset, high grade (2nd or 3rd degree) atrioventricular conduction defects that resolve in days to weeks and are sometimes associated with myocarditis. Palpitations, bradycardia, bundle branch block, or myocarditis alone are not accepted as criteria for cardiovascular involvement.

**3. Exposure:**

Exposure is defined as having been in wooded, brushy, or grassy areas (potential tick habitats) in an endemic county no more than 30 days prior to the onset of EM. A history of tick bite is not required.

**4. Endemic county:**

An endemic county is one in which at least 2 definite cases have been previously acquired or a county in which a tick vector has been shown to be infected with *B. burgdorferi*.

**5. Laboratory confirmation:**

Laboratory confirmation of infection with *B. burgdorferi* is established when a laboratory isolates the spirochete from tissue or body fluid, detects diagnostic levels of IgM or IgG antibodies to the spirochete in serum or CSF, or detects a significant change in antibody levels in paired acute and convalescent serum samples. States may determine the criteria for laboratory confirmation and diagnostic levels of antibody. Syphilis and other known causes of biologic false positive serologic test results should be excluded, as appropriate, when laboratory confirmation has been based on serologic testing alone.